Kanban Foundations

OCTOBER 2023

Learning Objectives

Category	Learning Objective
The Origins of Kanban	❑ Industrial Kanban ❑ What does Kanban mean? ❑ Kanban method in modern software development age
Basic Concepts in Kanban	❑ Kanban at a Glance ❑ Continuous Flow concept ❑ Kanban Roles, Events, and Key Elements
Five Core Principles of Kanban	❑ “Why over How” – Dude’s Law ❑ Core Principles of Kanban ❑ Achieving Flow ❑ Push vs Pull ❑ Bottlenecks and WIP
When to use Kanban?	❑ Using Kanban: DOs and DONTs
How to implement Kanban successfully?	❑ “Doing Kanban” Exercise ❑ STATIK Framework ❑ Take It To Your Desk

Working Agreements

What I ask of you:

- Be Here Now (and on camera)
- All questions are good and welcomed
- There will be a break every hour
- Miro Overview – quick overview, and how to use it

Is there anything you need from me?

ACTIVITY

Team chat

5 Minutes

What do you hope to get out of today?

Introductions

The Origins of Kanban

The Origins

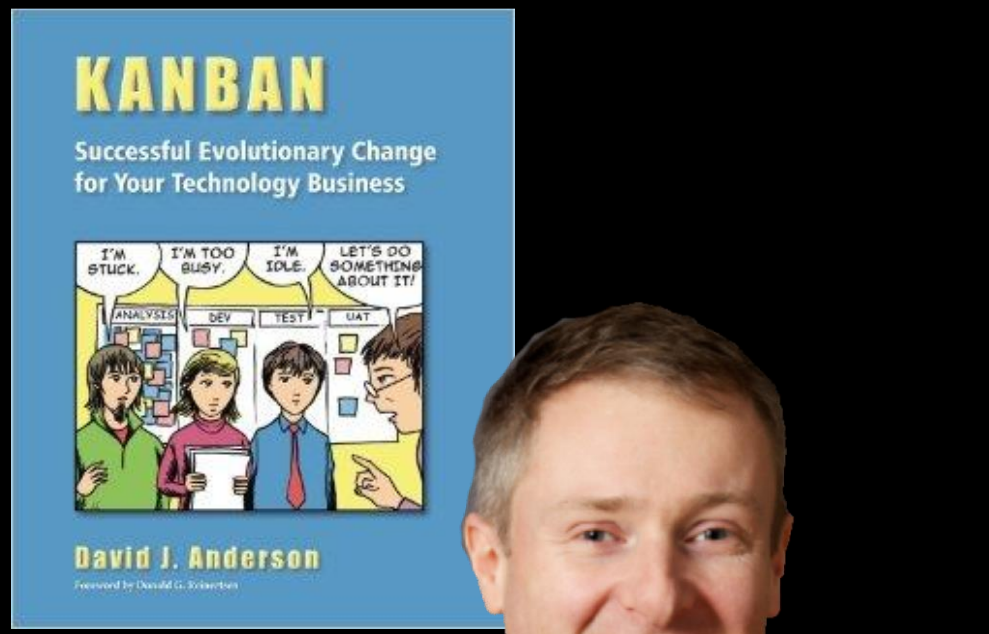
Without kanban control: no one enjoys nature.

With kanban control: beauty for a few people at a time.

Industrial Kanban

The history of Kanban can be traced back to the manufacturing practices of Toyota, where it was initially developed as part of the Toyota Production System (TPS) or Lean Development.

In Japanese factories, a “pull” system, uses a kanban board to keep work flowing at an optimal rate, without partially finished goods piling up around the factory.



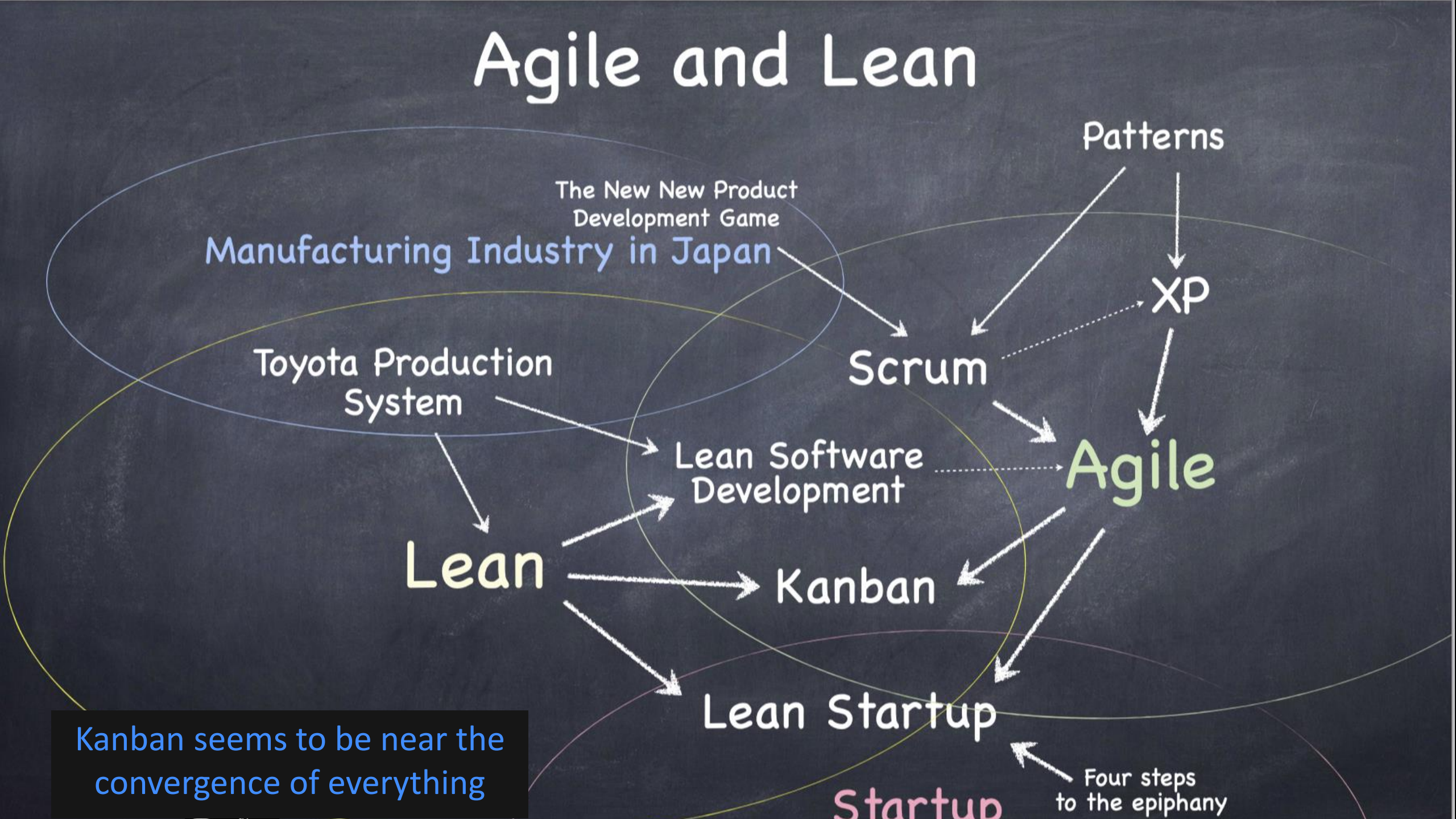
"Kanban is not a software development lifecycle methodology or an approach to project management."

David J. Anderson, Kanban

Kanban – The Alternative Way To Agility

Kanban is a method that shows us how our work works. It is used to define, manage, and improve systems that deliver Services or Value to customers.

Agile and Lean



Kanban seems to be near the convergence of everything

ACTIVITY

Team chat

15 Minutes

What are the facts and myths ?

Facts VS Myths

12

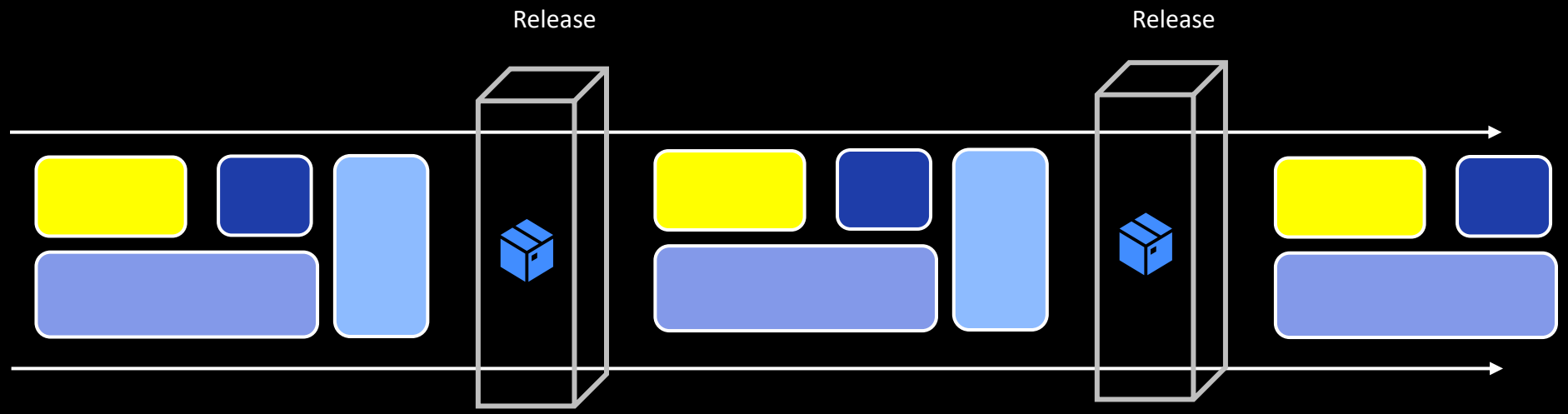
02

The Basics Concepts

Kanban at a Glance

Time-box	No Time-box (continuous flow)
Roles	None Defined
Events	None Required
Pacing Controls	WIP Limit
Visual Tools	Not required but teams often use Kanban board
Implementing Kanban	Apply to the process you're currently running

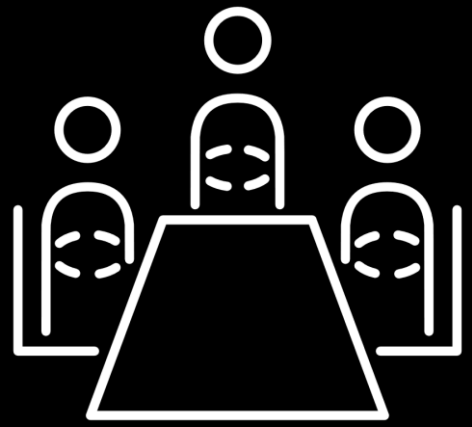
Continuous flow = No time-box



Stop Starting and Start Finishing

DON'T	DO
• Plan Sprints	• Keep Sustainable Pace
• Game Stories	• Predict Target Dates
• Etc	

Kanban Defines No Roles



- Start with the roles and events you have now
- Move people in low-value roles to higher-value roles
- Steal ideas from other methodologies that might work better
- Trust the team to take charge of their own processes

Operations Review · *monthly, 2 h*

Organization-level meeting.
Focused on assuring global flow over local optimizations and being fit for our customers.

Risk Review · *monthly, 1-2 h*

Discuss and agree on risk profiles related to certain tasks or changes and act accordingly. It’s applicable to all levels of the organization, therefore, it can probably happen with different cadences for different levels.

Strategy Review · *quarterly, 4 h*

Is the highest-level meeting reviewing and adjusting the strategy based on information from our customers and markets.

Daily Standup · *daily, 15 min*

- What prevents us?
- How is the work going?
- What needs to change?

Service Delivery Review Meeting · *bi-weekly, 30 min*

The service delivery review aims to assess how successfully the team's output serves the client.

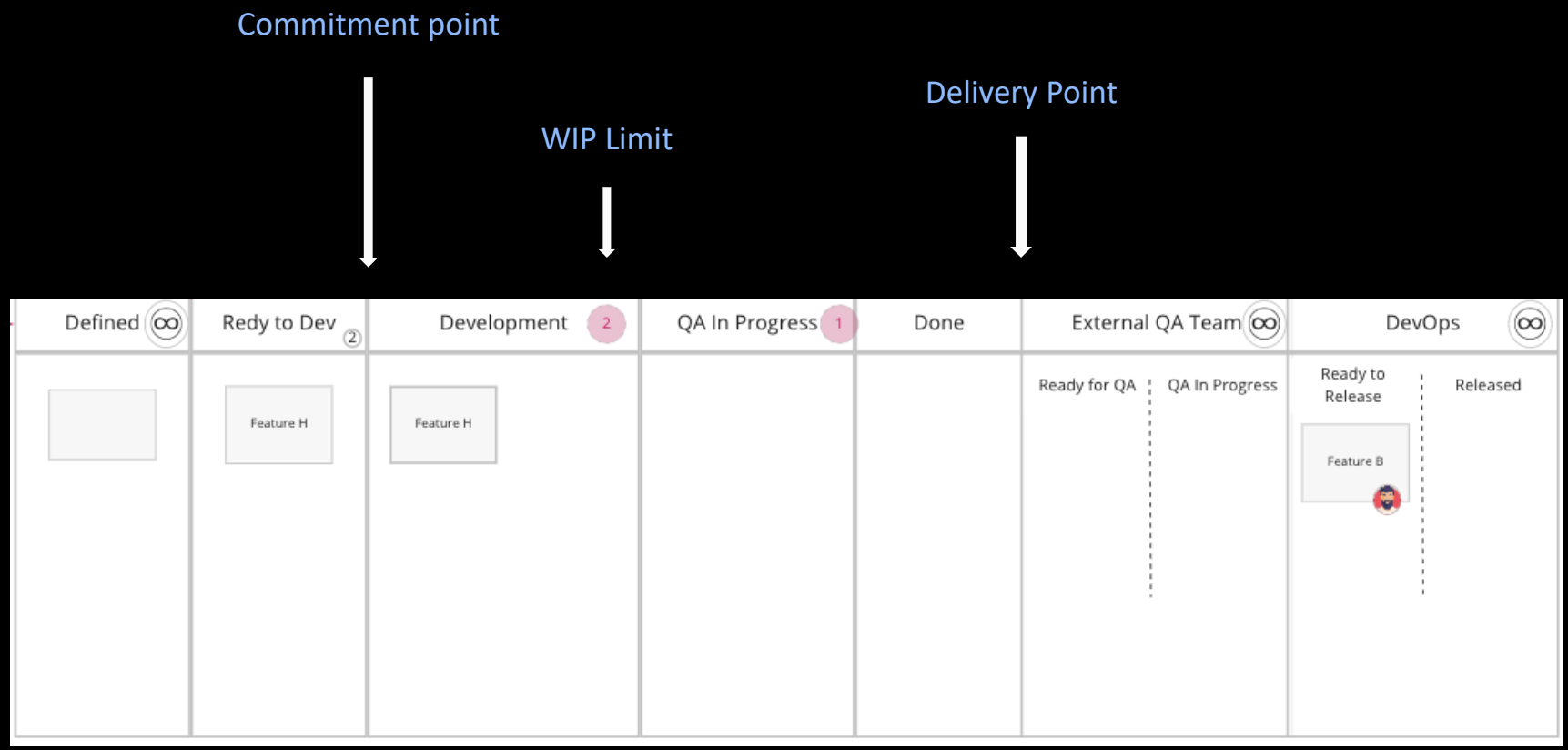
Replenishment Meeting · *daily to bi-weekly, 30 min*

The number of jobs in the backlog must be chosen such that a constant flow of work moves across the Kanban board

Delivery Planning Meeting · *each cadence (variable), 1-2 h*

The team may forecast what needs to be released together with other work items that need to be done. Data-driven choices are highly welcomed.

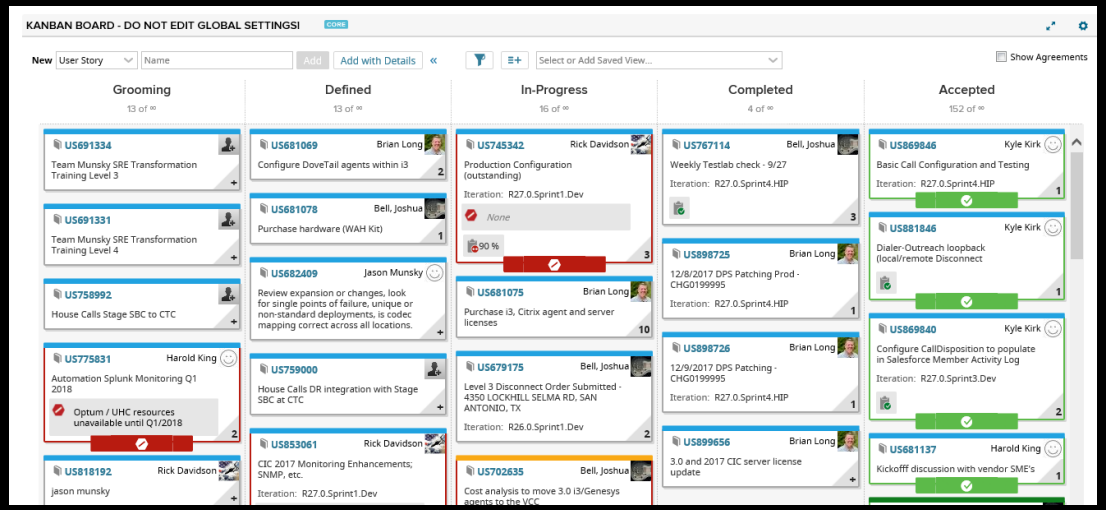
Visualize Limit WIP

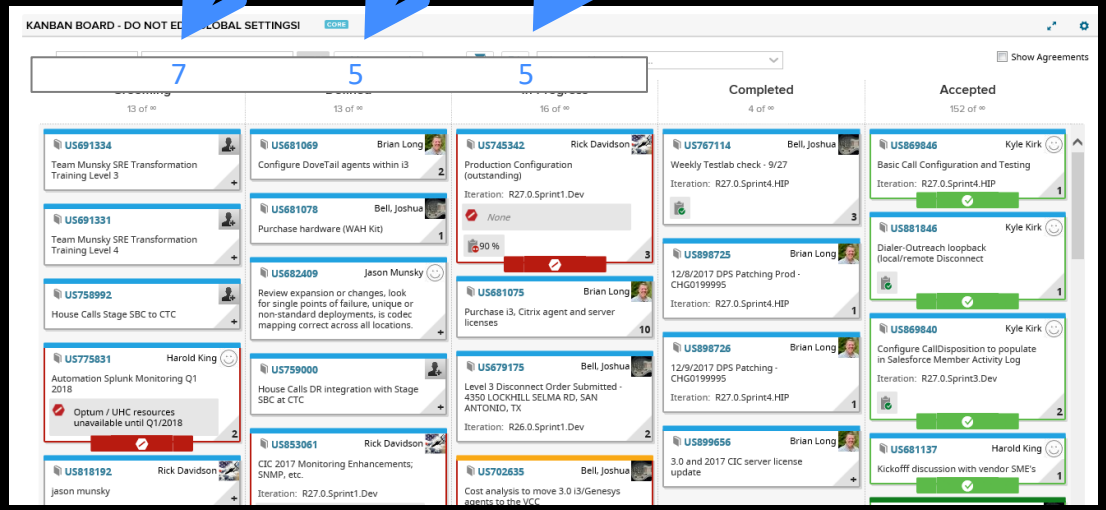


Respecting WIP limits changes a "push" into a "pull system".

In Kanban systems use WIP Limits to represent the available capacity and to signal the need to pull items.

Storyboard vs Kanban board





If you don’t have WIP limits, you are not doing Kanban

Discussion

- What are some advantages to Scrum?
- When might Waterfall be a good choice?

Guidelines of Kanban

- Start with what you do now
- Start with the current roles, responsibilities & titles
- Agree to pursue incremental, evolutionary change
- Encourage acts of leadership at all levels

The effect of the principles 1: Start With What You Do Now

What changes would you have to make to your staffing and team structure to start Kanban?

Nothing!

The effect of the principles 2: Start with the current roles, responsibilities, and titles

What happens if a team highly resistant to change converts from waterfall to Kanban?

Maybe they never change!

ACTIVITY

Team chat

10 Minutes

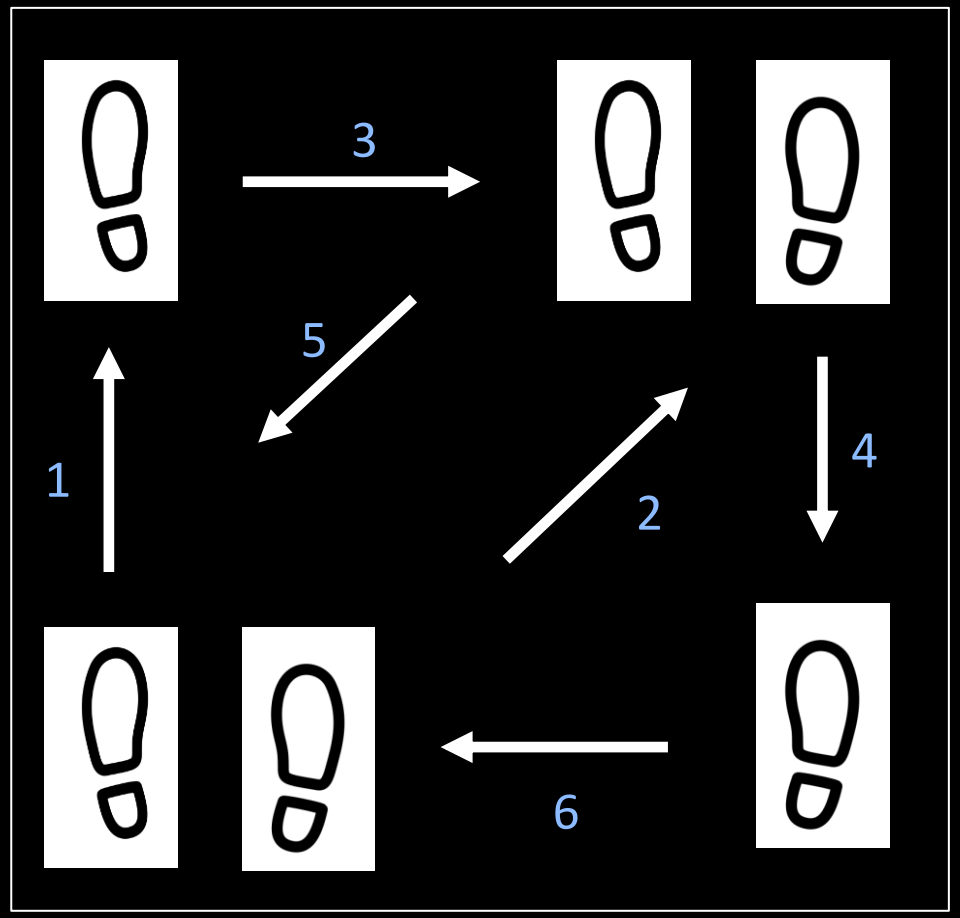
Differentiate Kanban and Agile Values

Kanban & Agile Values

03

Five Core Principles of Kanban

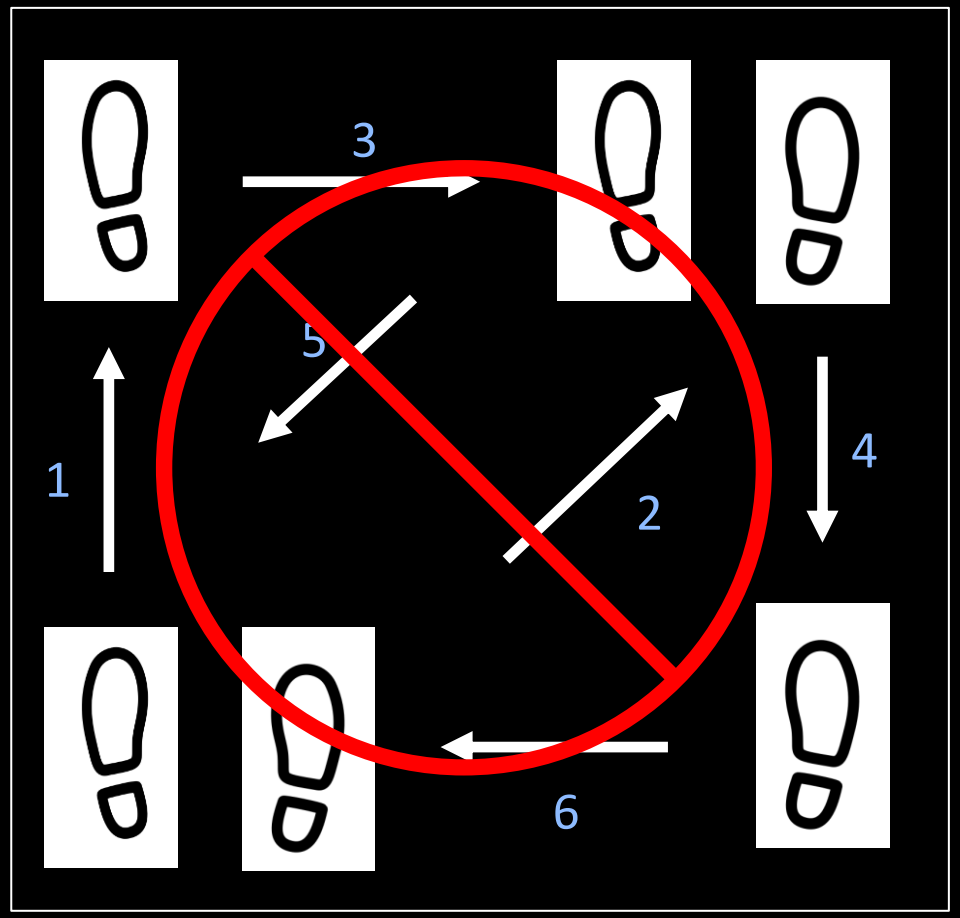
“Why Over How” – Dude’s Law



Basic box

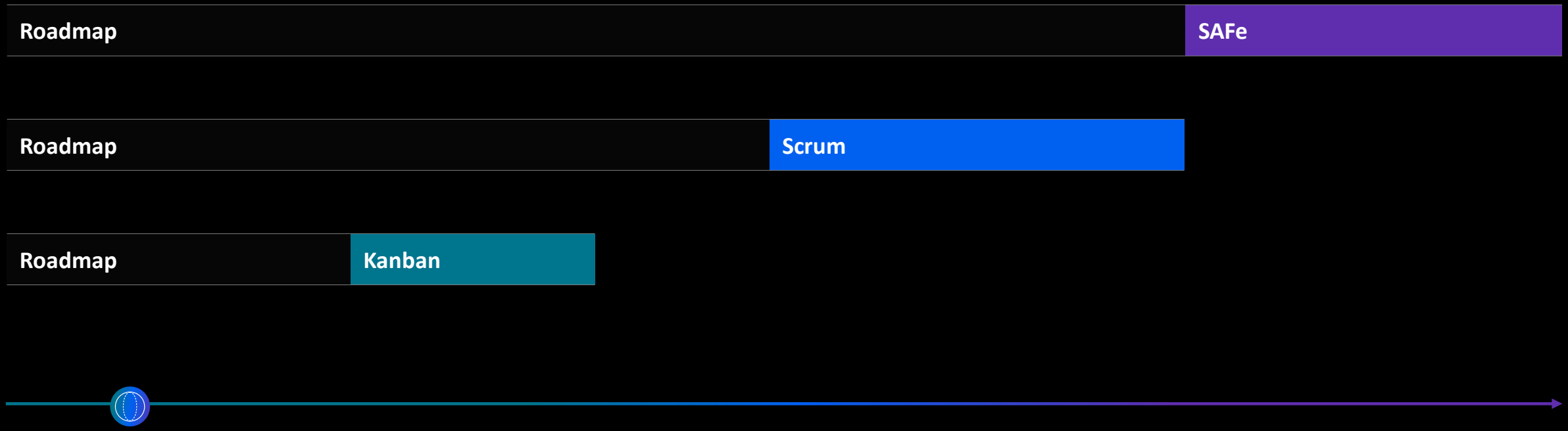
- The diagram shows HOW to step.
- A good dancer has to know WHY to step.

Core Principles of Kanban

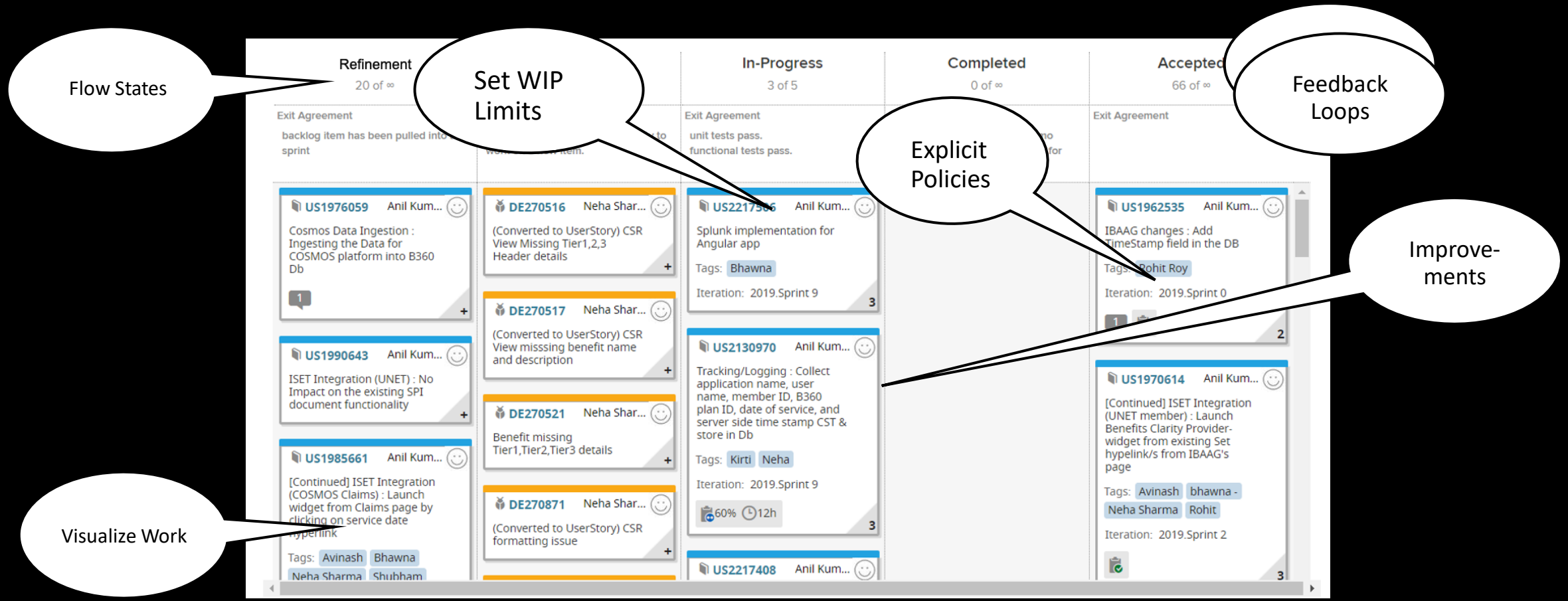


Basic box

- Visualize Workflow
- Limit Work in Progress (WIP)
- Measure and Manage Flow
- Make Process Policies Explicit
- Use Models to Recognize Improvement Opportunities


Roadmap
SAFe
Roadmap
Scrum
Roadmap
Kanban

A peek at Kanban principles in action



What is the difference between continuous improvement and the scientific method?

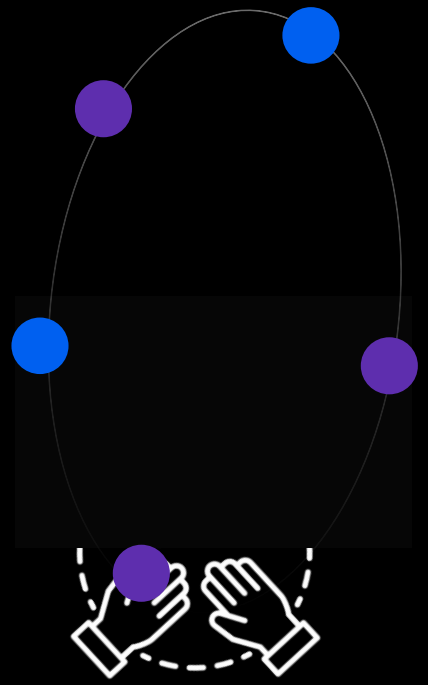
Continuous Improvement assumes that you already know it is going to be better, and that every change will improve the system.

A scientific experiment may completely fail, but it teaches you something you need to know.

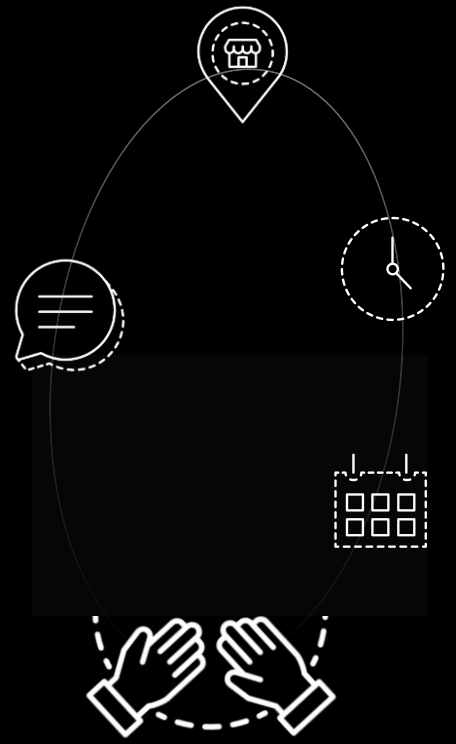
A Deeper Dive

- Juggling,
- Achieving Flow,
- Push vs Pull,
- Bottlenecks,
- Limiting WIP Limits

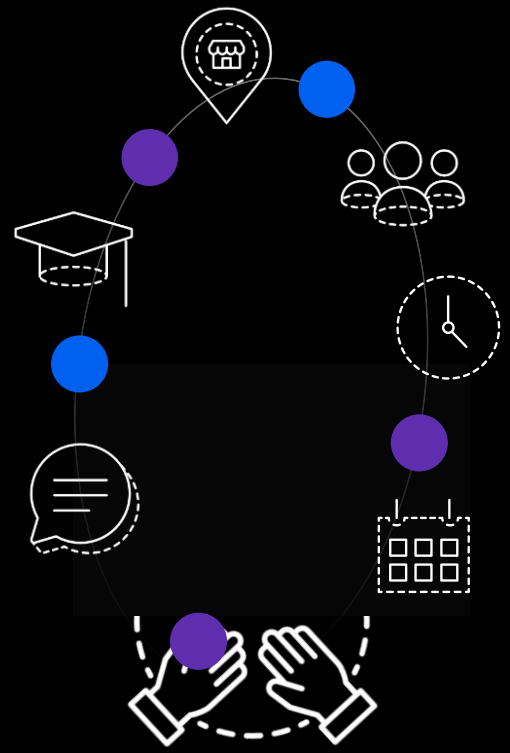
Juggling



Juggling is hard. The difficulty goes up exponentially with the number of balls in the air.



Juggling abstract objects is even harder, because it takes more brainwork.



There is a limit to what you can hold in your brain, no matter how fast your hands are.

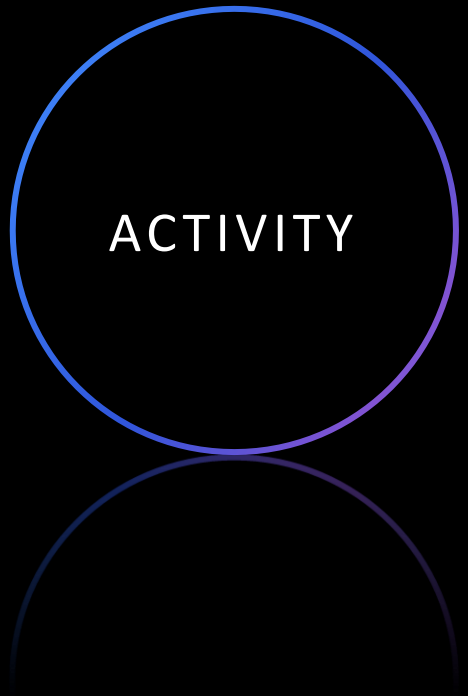
Juggling is wasteful

- Juggling is more work and creates more stress.
- More stress and less focus leads to more errors.
- More errors leads to more work (Hotfixes, War rooms, etc)
- Juggling increases the Cost of Delay in all your work.

Stop starting and start finishing!

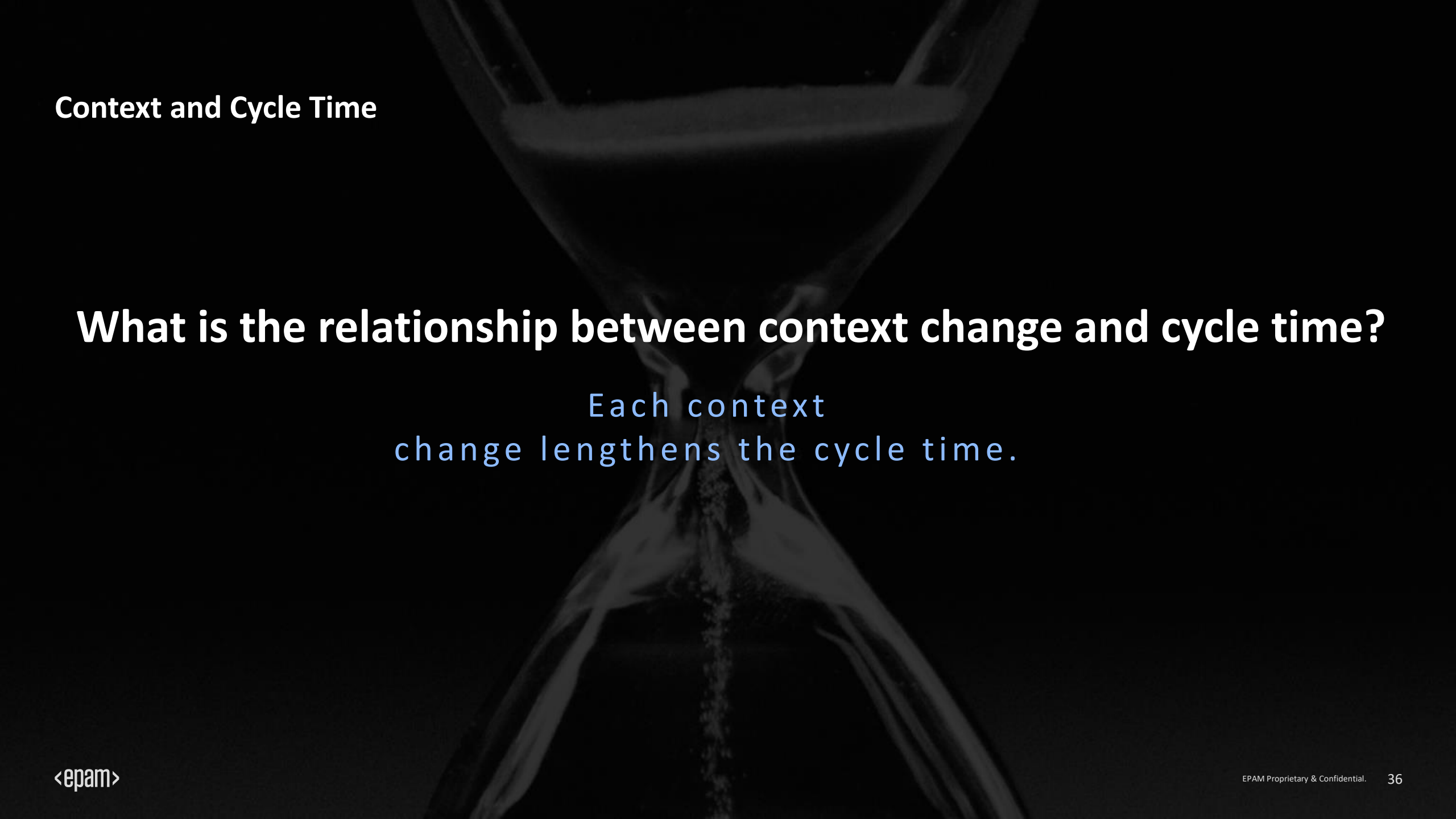
Achieving flow

- Split stories until they are small (a couple of days?)
- Choose things to work on that you can GET DONE
- Work on as few things as possible and GET THEM DONE
- Swarm (work in groups) on stories to GET THEM DONE FASTER
- Prepare the approver, so you can GET ACCEPTANCE RIGHT AWAY



Small Batches Exercise

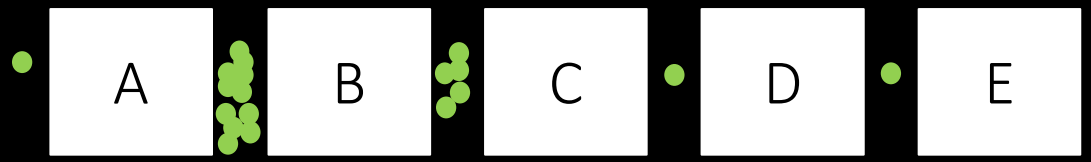
Context and Cycle Time



What is the relationship between context change and cycle time?

Each context
change lengthens the cycle time.

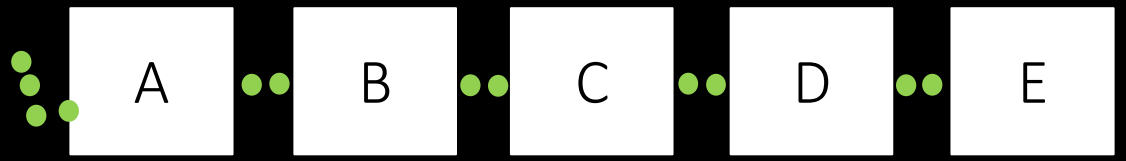
Push vs Pull Systems



Push

Something, in a linear process, is always the bottleneck.

Nothing you do to any part of the process will increase the flow until you address the bottleneck.

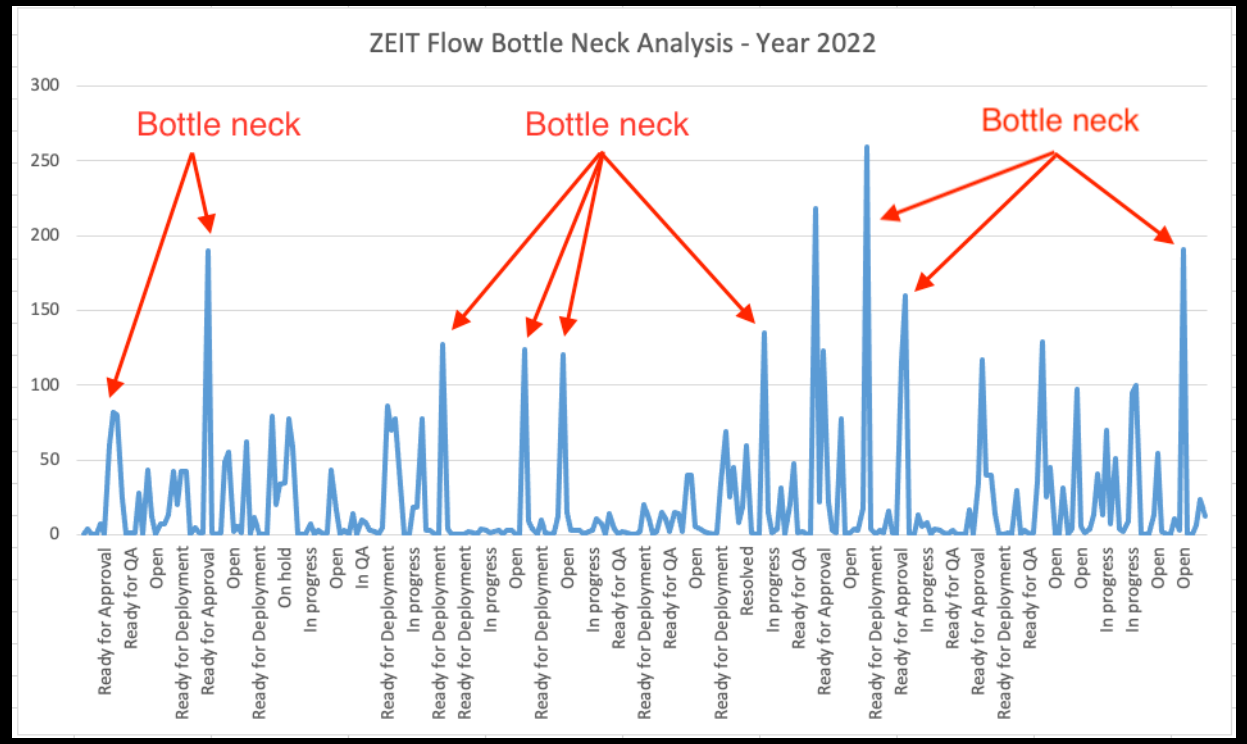


Pull

In a pull system you reduce the juggling (backup between processes).

This won't fix a bottleneck, it just means you'll have less stuff lying around needing to be managed.

Fixing Bottlenecks



1. Adjust the WIP limits to prevent juggling and inventory.
2. Find the bottleneck (which limits the flow rate across the system).
3. Figure out how to correct the bottleneck.
4. Repeat with the new bottleneck. (There is always a bottleneck.)

Bottleneck

Which of these is the most expensive way to fix a bottleneck?

- Buffer up some work, so small fluctuations don’t cause a bottleneck.
- Shuffle people around to get more people on the bottleneck
- Hire more people or change corporate practices.

04

When to Use Kanban

When to use Kanban

- Operations and Maintenance (O&M)
- Production support
- Service-oriented teams
- Database management
- Infrastructure teams
- Research and Development
- Mature Agile Teams

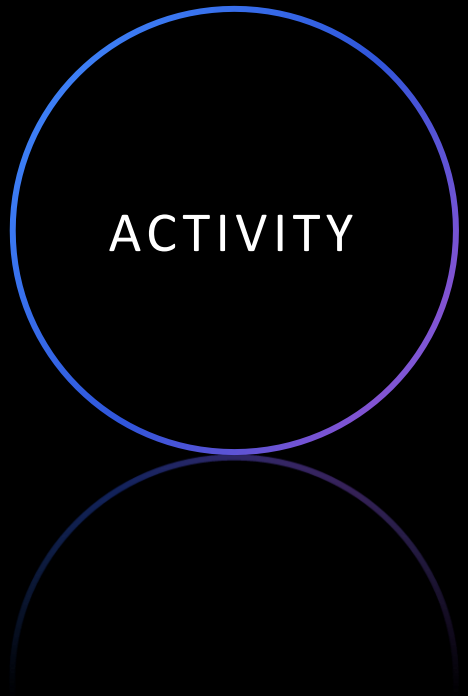
When Kanban may be a problem

- There is a mandated project plan.
- Leadership wants waterfall-like progress reports.
- There are lots of dependencies between teams.
- The dependencies take a lot of time to work out.
- You have new teams without Agile experience and without a coach to guide them.

You picked Kanban to avoid the discipline of Scrum and SAFe.

05

How to implement Kanban successfully



Featureban 3.0 Exercise

“Doing” Kanban

GOAL 1: Get all the cards all the way off the right side of the board.

GOAL 2: Sooner is better.

GOAL 3: Try to keep as few cards on the board as possible.

“Doing” Kanban 2

Rules:

- To move a card to the right, you have to meet the exit condition for the column it is in.
- You should not move a card into a column that is at its WIP limit.
- Everyone on the team should have the training and authority to move cards.
- You should not push a card from a column where you work to a column where you don’t work. You should pull a card that is ready into your column. (You **pull** work.)

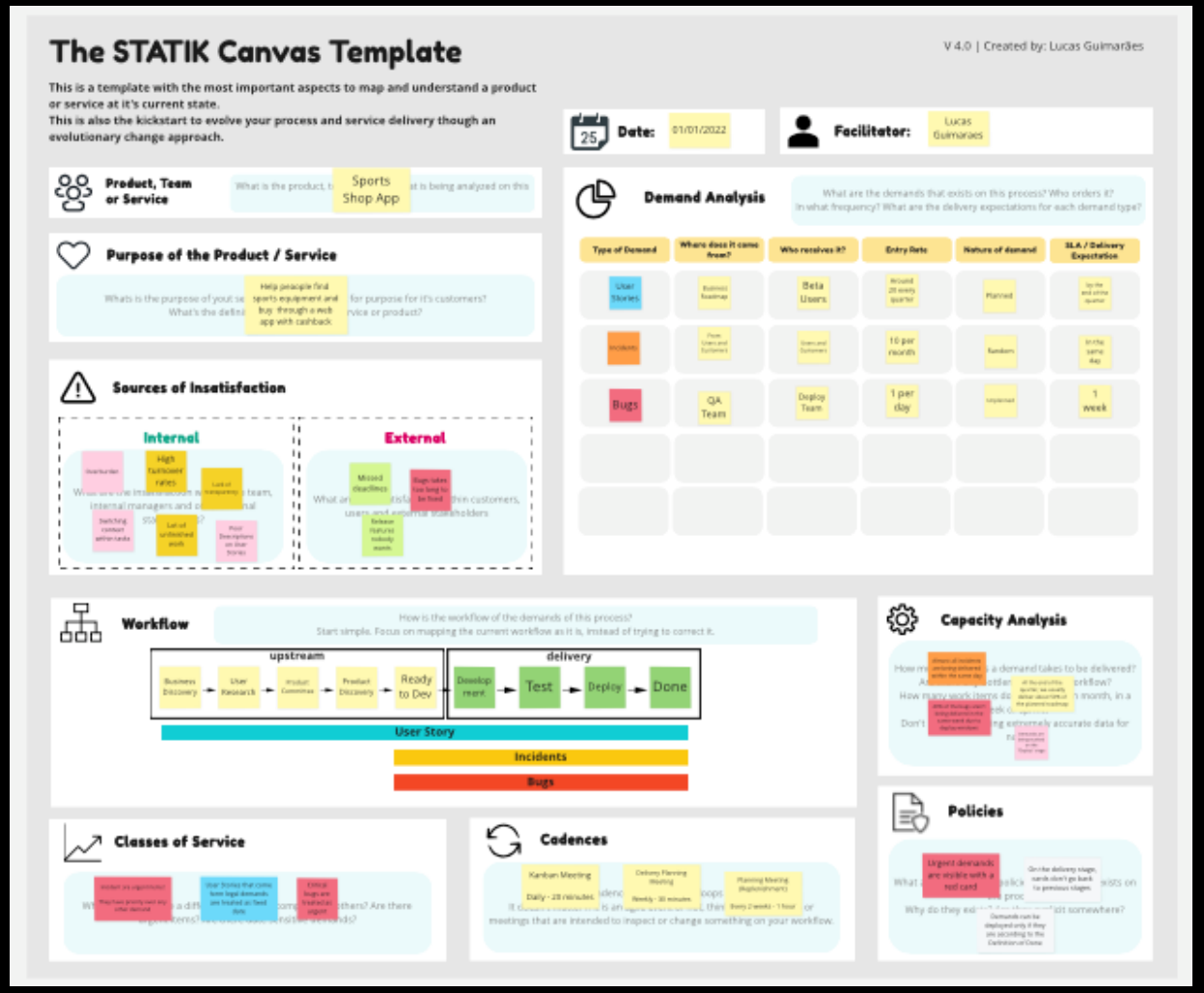
Exceptions:

- If a card really fails, you can push it backward to where it needs to be reworked. In this case, you can violate the WIP limits.
- In the ideal world, cards step from one column to the next. In reality, there are reasons to skip columns or take them out of order.

System Thinking Approach to Introducing Kanban (”Kanbanize” the flow)

Step-By-Step Guide:

- Understand the Purpose
- Understand the System
- Define Service Classes
- Define Workflow
- Discover Work Item Types
- Define Policies
- Implement Feedback Loops
- Implement Metrics
- Model the Workflow
- Socialize the Kanban System
- Agree to pursue Incremental, Evolutionary Change

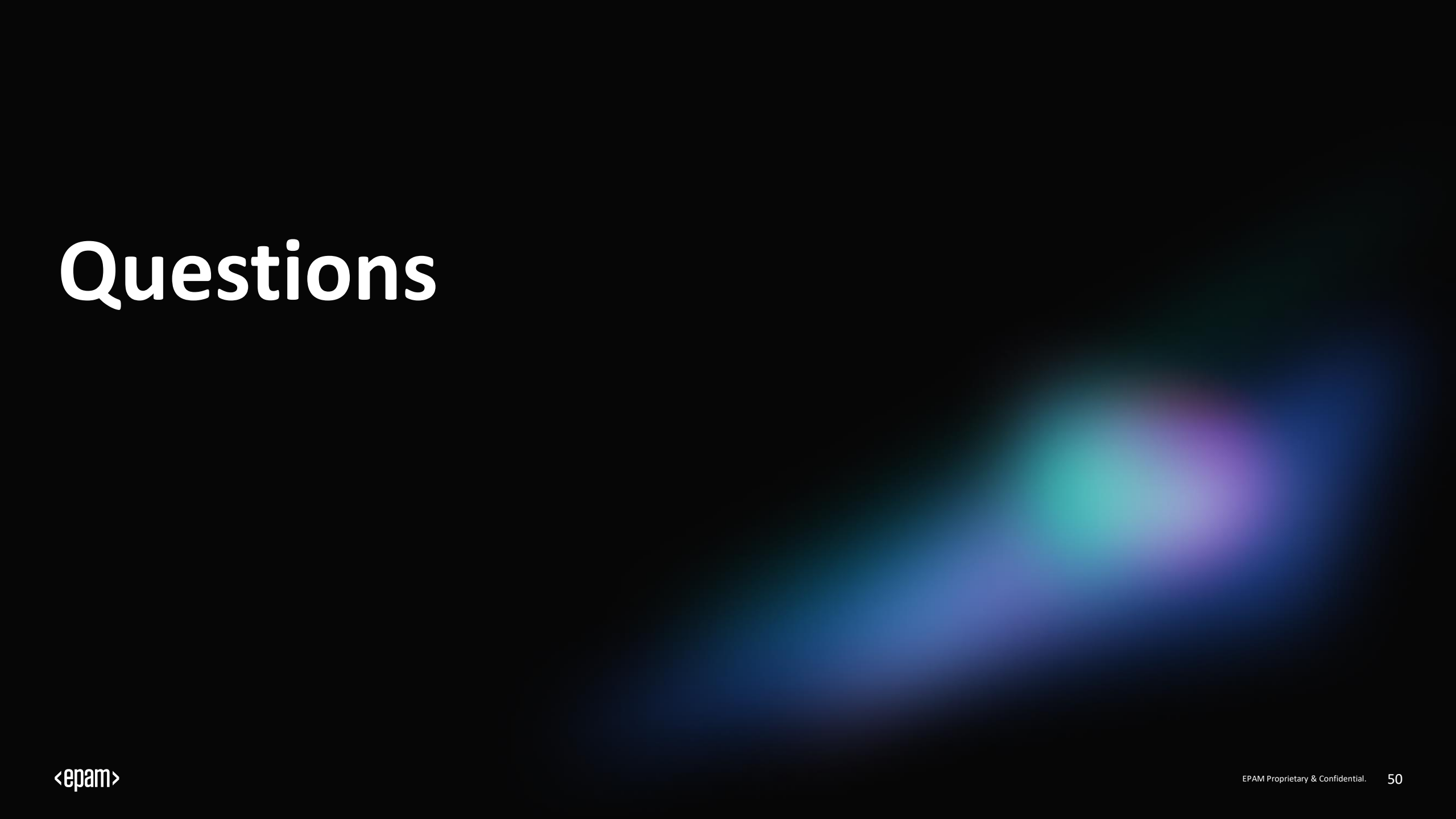


Take It to Your Desk

What can you start doing now?

Survey

Questions



Thank you

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